Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554



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| In the Matter of | ) | |
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| Amendment of the Commission's Rules Regarding Multiple Address Systems | ) | WT Docket No. 97-81 |
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## COMMENTS

Pursuant to Section 1.415 of the Commission's Rules, Sensus Technologies, Inc., by its undersigned attorneys, hereby provides the following comments on the Commission's Notice of Proposed Rule Making in the above-referenced matter.[1] Sensus manufactures and markets equipment which is designed to use unpaired frequencies in the 956 MHz band. See 47 C.F.R. § 101.147(b)(1). For the reasons outlined below, Sensus strongly recommends that the Commission make no changes in the current licensing approach for multiple address systems using these frequencies.

### Sensus Technologies and the RadioRead™ System

Sensus Technologies has a 100-year history in the manufacture of high-quality water meters for utility markets, including the TouchRead® remote meter

[1] Notice of Proposed Rule Making, FCC 97-58 (released Feb. 27, 1997) ("NPRM"). The time for filing comments was extended to May 1, 1997, by the Private Wireless Division's Order, DA 97-839 (released Apr. 18, 1997).

reading system for on-site reading of meters in underground pits and vaults. More recently, Sensus has introduced innovative automatic meter reading ("AMR") systems, including the RadioRead™ system. A RadioRead™ installation incorporates equipment operating on unpaired frequencies at 956 MHz for automatic remote meter reading.

In a RadioRead™ system, meter reading is accomplished through two-way communications between a meter transceiver unit ("MXU") connected to a utility meter and a Sensus interrogation unit, which could be a handheld unit or a unit located in a vehicle. To read meters, the interrogation unit transmits an *alert* signal to the MXUs using a 12.5 kHz channel in the 956 MHz band. The operator has the option of directing the *alert* signal to all MXUs within a certain range or to individual MXUs. After receiving the *alert* signal from the interrogation unit, the MXU obtains the meter's absolute encoder registration identification number and meter reading which are transmitted back to the interrogator.

The MXUs are Part 15 devices which transmit a spread spectrum signal in the 902-928 MHz band back to the interrogation unit. After the interrogation unit receives valid data, it transmits an acknowledgement signal back to the MXU, again on a 956 MHz channel, which returns the MXU to the power down mode. Turning down the power helps maintain battery life and also optimizes the efficiency of the system by eliminating unnecessary radio transmissions.

The RadioRead™ system has proven to be an innovative and efficient use of MAS frequencies. The system operates on a small amount of bandwidth, and uses

unlicensed spread spectrum frequencies where possible. Moreover, Sensus has developed an encoding system which allows short-spacing of licensed facilities because interrogation units only read MXUs that transmit the proper registration code. Water utilities and consumers benefit substantially from the system because it improves the accuracy and efficiency of meter reading. The AMR system also encourages conservation of water resources by providing an improved measure of usage. Sensus anticipates that the benefits of AMR systems will increase the demand for the system and licenses to operate them.

The 956 MHz Band Should Be Retained for Private Use

In the NPRM, the Commission noted that the 928/952/956 MHz bands appear "currently to be used overwhelmingly for private service." NPRM, ¶ 12. The Commission sought comment on the use of this spectrum, and whether to change the current licensing approach.

Based on its experience with utilities which install the RadioRead™ system, Sensus strongly recommends that the 928/952/956 MHz bands be retained for private use, primarily to satisfy internal communications needs of licensees, such as utilities which install AMR systems. Each water utility that installs Sensus' RadioRead™ system applies for a license to operate the interrogation units in the 956 MHz frequencies. These water utilities are almost all owned by local governments and are using the frequencies for operation of meter reading equipment which they own. Thus, this use of the spectrum is non-commercial in

that the utilities are agencies of local governments and private in that the frequencies are used for the utilities' internal purposes.

Moreover, it would be impractical to encourage commercial, subscriber-based operations in the 956 MHz band. For installations like the RadioRead™ system, commercial competition occurs primarily in the choice of system and equipment, not the choice of service provider.[2] While it would certainly be possible for commercial operators to compete in meter reading services, the license for frequencies is more appropriately held by the owner of the equipment, which in this case would generally be a utility company. Accordingly, Sensus recommends that the licensing model for the 956 MHz band not be changed.

Sensus also supports the Commission's proposal to prohibit further subscriber-based use of the 956 MHz band, particularly by Part 22 users. NPRM, ¶ 13. The 956 MHz band is currently available for shared use by Public Land Mobile Service users if frequencies listed in Section 22.50(g) are exhausted in a certain geographic area. See 47 C.F.R. § 101.147(b)(1). The use of this band by Part 22 systems in urban areas has caused difficulties in coordinating frequencies for water utilities to use the RadioRead™ system, and may have the effect of preventing such use. To effectively preserve the 956 MHz band for private use, the Commission must extend its prohibition on subscriber-based services to shared use of this band by Part 22 systems.

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[2] Of course, for a utility to obtain the economies of scale associated with the equipment, it would not be efficient to permit the ultimate consumer to make the choice of equipment provider or equipment.

The 956 MHz Band Should Be Licensed by Site, Not Area

The Commission has sought comment on whether to employ geographic area licensing for the 928/952/956 MHz band, as it has proposed to do for the 932/941 MHz and 928/959 MHz bands. NPRM, ¶ 15. For AMR equipment, Sensus believes use of geographic area licensing would not serve the public interest.

First, since local governments are the entities most likely to desire a license in a specific area, use of geographic area licensing would be inefficient. The jurisdictional boundaries of water and other utility companies would not necessarily match any of the commercial service areas which the Commission has under consideration. NPRM, ¶¶ 16-18. Therefore, it would be difficult for any licensee to build an efficient service in any such fixed geographic market.

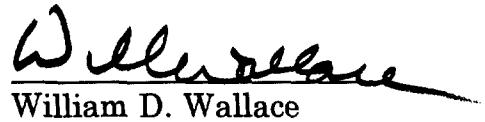
Second, using spectrum management techniques, it may be possible for several utilities to use the same frequencies within the same geographic area. As described above, Sensus has developed an encoding program which allows short-spacing of service areas. Other meter equipment manufacturers may do the same. Because the public can benefit through reuse of scarce spectrum resources, it would not serve the public interest to impose a licensing model with single licensees in an arbitrarily assigned geographic area.

## Conclusion

For the reasons set forth above, Sensus recommends that the 928/952/956 MHz bands be retained for private use and that the Commission continue to license these frequencies on a site-by-site basis.

Respectfully submitted,

SENSUS TECHNOLOGIES, INC.

By: 
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